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EXAMINER	
AGUSTIN, PETER VINCENT	
ART UNIT	**PAPER NUMBER**
2652	

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/914,593	MATSUDA, YUJI	
	Examiner	Art Unit	
	Peter Vincent Agustin	2652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 February 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Page 10, line 3: "free fun" should be --free run--.

Appropriate correction is required.

Claim Objections

2. Claims 1, 5 & 10-16 are objected to because of the following informalities:

Claim 1, last line: "comparison" should be --comparison circuit--.

Claims 5 & 10-16, last line: "so as to reduce" should be --by reducing--. (see 112-1st paragraph rejection below).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 2, 5-7, 9-14 & 16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 2 recites that the driver IC includes a spindle driver IC, a traverse driver IC, and an actuator driver IC. Note that base claim 1 recites a driver IC (see line 3), i.e., a single driver IC. The Applicant's disclosure (see Figure 1) shows one driver IC for a spindle motor, one driver IC

for a traverse motor, and one driver IC for an actuator. There is no disclosure of a single driver IC that includes all of the claimed spindle driver IC, traverse driver IC, and actuator driver IC.

Claims 5 & 10-16, last two lines recite "suppressing heat generation of the actuator driver IC so as to reduce a number of revolutions of the optical disk." This is not supported by the Applicant's disclosure. On page 10, lines 10-17, the Applicant discloses reducing the number of revolutions of the disk in order to suppress heat generation of the actuator driver IC, which disclosure is not equivalent to the claimed language. The Examiner suggests replacing "so as to reduce" with --by reducing--.

Claims 6, 7, 9, 10, 12, 14 & 16 are dependent upon a rejected base claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takaishi (US 6,160,676).

In regard to claim 1, Takaishi discloses a disk device (Figure 10) for recording/reproducing data on/from a disk, the disk device comprising: a driver IC (28-1~28-4; see column 9, lines 23-24) for driving a recording/reproduction driving system; a monitor circuit (29) for monitoring a junction temperature of a chip of the driver IC (column 9, lines 22-28); a comparison circuit (included in element 29 as suggested by column 9, lines 18-21) for comparing an output of the monitor circuit with an arbitrary set temperature and outputting a temperature

flag as a comparison result; and a CPU (22) for controlling the operation of the disk device and monitoring the temperature flag outputted from the comparison circuit, the CPU performing a control so as to continue driving of the disk device when the junction temperature is lower than the arbitrary set temperature, and performing a control so as to suppress heat generation of the driver IC when the junction temperature is equal to or higher than the arbitrary set temperature (column 9, lines 17-21), wherein the monitor circuit and the comparison circuit are included in the driver IC (column 9, lines 22-24). However, in regard to claim 1, Takaishi does not disclose that the disk device is an "optical" disk device, and that the disk is an "optical" disk.

Official Notice is taken that at the time the invention was made, it was well known to one of ordinary skill in the art that optical disk devices and magnetic disk devices have similar mechanical components, including the driving system, the driver IC, and the CPU taught by Takaishi. Therefore, the teachings of Takaishi applied to magnetic disk devices would also have been equally applicable to optical disk devices; and it would have been obvious to one of ordinary skill in the art at the time of the invention by the Applicant to have applied the teachings of Takaishi to optical disk devices, as claimed.

7. Claims 2, 3 & 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takaishi in view of Jeppson et al. (US 5,416,648).

a. For a description of Takaishi, see the rejection above. Furthermore, in regard to claim 2, Takaishi discloses that the driver IC includes an actuator driver IC (column 9, lines 22-24). Takaishi inherently discloses a spindle driver IC (necessary to operate Figure 10, element 26) and a traverse driver IC (necessary to operate element 27);

however, Takaishi does not explicitly disclose that the spindle driver IC and the traverse driver IC are included in the driver IC.

Jeppson et al. disclose a driver IC (Figure 1, element 14) that includes a spindle driver IC (note elements 38 & 18), a traverse driver IC (column 5, lines 42-43: "a rotary voice coil actuator structure 26 for positioning the head 24"), and an actuator driver IC (column 5, lines 43-45: "a servo driver circuit 28 for operating the rotary voice coil actuator 26").

At the time the invention was made, it was well known to use a driver IC that includes a spindle driver IC, a traverse driver IC, and an actuator driver IC, as taught by Jeppson et al., and using the driver IC of Jeppson et al. for the device of Takaishi would have been obvious to one of ordinary skill in the art because the driver IC of Jeppson et al. serves the same function of controlling the spindle motor, the read/write head, and the actuator for the read/write head.

b. For a description of Takaishi, see the rejection above. Furthermore, in regard to claim 3, Takaishi discloses that the driver IC includes an actuator driver IC and the actuator driver IC internally includes the monitor circuit and the comparison circuit (column 9, lines 22-24; see also claim 1 rejection above), and the CPU exerts a control for suppressing heat generation of the actuator driver IC so as not to perform microactuator control for an arbitrary period of time (column 9, lines 17-21). Furthermore, Takaishi inherently discloses a spindle driver IC (necessary to operate Figure 10, element 6), but does not explicitly disclose: that the spindle driver IC is included in the driver IC; that the spindle driver IC internally includes the monitor circuit

and the comparison circuit; and that the CPU exerts a control for suppressing heat generation of the spindle driver IC so as not to perform a forced acceleration or a forced deceleration of the optical disk for an arbitrary period of time.

Jeppson et al. disclose a driver IC (Figure 1, element 14) that includes a spindle driver IC (note elements 38 & 18).

At the time the invention was made, it was well known to use a driver IC that includes a spindle driver IC, as taught by Jeppson et al., and using the driver IC of Jeppson et al. for the device of Takaishi would have been obvious to one of ordinary skill in the art because the driver IC of Jeppson et al. serves the same function of controlling the spindle motor.

As noted above, Takaishi discloses that the driver IC includes an actuator driver IC and the actuator driver IC internally includes the monitor circuit and the comparison circuit. Applying this teaching of Takaishi to the spindle driver IC of Jeppson et al. will automatically result in the claimed "the spindle driver IC internally includes the monitor circuit and the comparison circuit".

As noted above, Takaishi discloses that the CPU exerts a control for suppressing heat generation of the actuator driver IC so as not to perform microactuator control for an arbitrary period of time. It is well known in the art that spindle motor control involves either a forced acceleration (speeding up the rotation) or a forced deceleration (slowing down the rotation) of a motor. Therefore, applying the teaching of Takaishi to the spindle driver IC of Jeppson et al. will automatically result in the claimed "the CPU exerts a control for suppressing heat generation of the spindle driver IC so as not to perform a

forced acceleration or a forced deceleration of the optical disk for an arbitrary period of time".

c. Claim 6 has limitations that are similar to those of claim 3; thus, it is rejected on the same basis.

8. Claims 4 & 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takaishi in view of Jeppson et al. and Ueki (JP 11-016243) (see translation).

a. For a description of Takaishi, see the rejection above. Furthermore, in regard to claim 4, Takaishi discloses that the driver IC includes an actuator driver IC (column 9, lines 22-24), the actuator driver IC internally includes the monitor circuit and the comparison circuit (see also claim 1 rejection above), and the CPU exerts a control for suppressing heat generation of the actuator driver IC (column 9, lines 17-21). Furthermore, Takaishi inherently discloses a spindle driver IC (necessary to operate Figure 10, element 6), but does not explicitly disclose: that the spindle driver IC is included in the driver IC; that the spindle driver IC internally includes the monitor circuit and the comparison circuit; and that the CPU exerts a control for suppressing heat generation of the spindle driver IC so that a free run state of the optical disk is included with changes in revolution of the optical disk.

Jeppson et al. disclose a driver IC (Figure 1, element 14) that includes a spindle driver IC (note elements 38 & 18).

At the time the invention was made, it was well known to use a driver IC that includes a spindle driver IC, as taught by Jeppson et al., and using the driver IC of Jeppson et al. for the device of Takaishi would have been obvious to one of ordinary skill

in the art because the driver IC of Jeppson et al. serves the same function of controlling the spindle motor.

As noted above, Takaishi discloses that the driver IC includes an actuator driver IC and the actuator driver IC internally includes the monitor circuit and the comparison circuit. Applying this teaching of Takaishi to the spindle driver IC of Jeppson et al. will automatically result in the claimed "the spindle driver IC internally includes the monitor circuit and the comparison circuit".

Ueki discloses a CPU (Drawing 1, element 9) that exerts a control for suppressing heat generation of a spindle driver IC so that a free run state of the optical disk is included with changes in revolution of the optical disk (see abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention by the Applicant to have applied the teachings of Ueki to the device of Takaishi, the motivation being to evade excessive rise of temperature and to prevent the deterioration of control ability.

b. Claim 7 has limitations that are similar to those of claim 4; thus, it is rejected on the same basis.

c. Claim 8 has limitations that are similar to those of claim 4; thus, it is rejected on the same basis. However, in regard to claim 8, while Takaishi discloses a monitor circuit and a comparison circuit, Takaishi, Jeppson et al. & Ueki do not disclose that these elements are "additional", as claimed.

As noted in the rejection of claim 1 above, Takaishi discloses a monitor circuit and a comparison circuit which are both included in the driver IC. As noted in the

rejection of claim 4 above, applying the teaching of Takaishi to the spindle driver IC of Jeppson et al. will automatically result in the claimed spindle driver IC that internally includes the monitor circuit and the comparison circuit. Therefore, providing the "additional" monitor circuit and the "additional" comparison circuit (as recited in claim 8) to the device of Takaishi already having a monitor circuit and a comparison circuit is simply a matter of combining old elements that perform or produce no new or different function or operation than that previously performed or produced by them. Therefore, it would have been obvious to one of ordinary skill in the art to have provided the monitor circuit and the comparison circuit produced by the combination of Takaishi and Jeppson et al. in addition to the device of Takaishi.

d. Claim 9 has limitations that are similar to those of claim 8; thus it is rejected on the same basis.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takaishi in view of Yamada et al. (JP 04129084).

For a description of Takaishi, see the rejections above. Furthermore, in regard to claim 5, Takaishi discloses that the driver IC includes an actuator driver IC (column 9, lines 22-24), the actuator driver IC internally includes the monitor circuit and the comparison circuit (see also claim 1 rejection above), and the CPU exerts a control for suppressing heat generation of the actuator driver IC (column 9, lines 17-21). Takaishi teaches suppressing heat generation by stopping control of microactuators, but does not teach suppressing heat generation by reducing a number of revolutions of the optical disk, as claimed.

Yamada et al. disclose suppressing heat generation by reducing a number of revolutions of an optical disk (see constitution of abstract).

At the time the invention was made, it was well known to use either "stopping control of microactuators" taught by Takaishi or "reducing a number of revolutions of an optical disk" taught by Yamada et al. for the same purpose of suppressing heat generation, and the selection of either one would have been obvious to one of ordinary skill in the art because these teachings are obvious equivalent techniques and both teachings perform the same function of preventing overheat/damage to the device.

10. Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takaishi and Jeppson et al. as applied to claims 2 & 3 above, and further in view of Yamada et al.

a. For a description of Takaishi and Jeppson et al., see the rejections above. Furthermore, claim 10 has limitations that are similar to those of claim 5; thus, it is rejected on the same basis.

b. For a description of Takaishi and Jeppson et al., see the rejections above. Furthermore, claim 11 has limitations that are similar to those of claim 10; thus, it is rejected on the same basis. However, in regard to claim 11, while Takaishi discloses a monitor circuit and a comparison circuit, Takaishi and Jeppson et al. do not disclose that these elements are "additional", as claimed.

As noted in the rejection of claim 3 above, Takaishi discloses a monitor circuit and a comparison circuit which are both included in the driver IC; and applying this teaching of Takaishi to the spindle driver IC of Jeppson et al. will automatically result in the claimed spindle driver IC that internally includes the monitor circuit and the

comparison circuit. Therefore, providing the "additional" monitor circuit and the "additional" comparison circuit (as recited in claim 11) to the device of Takaishi already having a monitor circuit and a comparison circuit is simply a matter of combining old elements that perform or produce no new or different function or operation than that previously performed or produced by them. Therefore, it would have been obvious to one of ordinary skill in the art to have provided the monitor circuit and the comparison circuit of Takaishi in addition to the device produced by the combination of Takaishi and Jepson et al.

c. Claim 12 has limitations that are similar to claim 11; thus, it is rejected on the same basis.

11. Claims 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takeishi, Jeppson et al., and Ueki as applied to claims 4 & 7-9 above, and further in view of Yamada et al.

For a description of Takeishi, Jeppson et al., and Ueki, see the rejections above. Furthermore, claims 13-16 have limitations that are similar to those of claim 11; thus, they are rejected on the same basis. Furthermore, in regard to claims 15 & 16, providing the "second additional" monitor circuit and the "second additional" comparison circuit is simply a matter of combining old elements that perform or produce no new or different function or operation than that previously performed or produced by them (see rejection of claim 8 above). Therefore, it would have been obvious to one of ordinary skill in the art to have provided the second additional monitor circuit and the second additional comparison circuit to the device of Takaishi, Jeppson et al., and Ueki.

Response to Arguments

12. Applicant's arguments, see page 11, filed February 2, 2005, with respect to the rejection(s)of claim(s) 1-16 under Hachi (JP 2000-090563) in combination with other references have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Takaishi (US 6,160,676).

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Vincent Agustin whose telephone number is 571-272-7567. The examiner can normally be reached on Monday-Friday 9:30-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Thi Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Peter Vincent Agustin
Art Unit 2652

BRIAN E. MILLER
PRIMARY EXAMINER